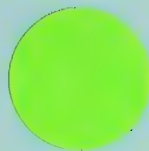


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End-Stage Renal Disease Patients in Health Maintenance Organizations

by Bonnie Morel Edington
and Roger Milam

June 1988

**Department of Health and Human Services
Health Care Financing Administration
Office of Research and Demonstrations**

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END-STAGE RENAL DISEASE PATIENTS IN
HEALTH MAINTENANCE ORGANIZATIONS

Bonnie Morel Edington, Office of Research and Demonstrations,
and Roger Milam, Bureau of Data Management and Strategy,
Health Care Financing Administration

The Health Care Financing Administration has a commitment to the concept of capitated payment for health care through authorized health provider organizations, such as Health Maintenance Organizations (HMOs). The Office of Research and Demonstrations has done considerable research on such arrangements, and has overseen more than 40 Medicare or Medicaid demonstration projects over the last decade. The evidence to date suggests that capitation will control health care costs while maintaining both the quality of care and beneficiary satisfaction.

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) made it possible for Medicare-eligible persons to join HMOs, with these organizations receiving a fixed monthly capitation payment for each enrollee, and agreeing to have an open enrollment period during which they would accept any Medicare-eligible enrollee who wished to join. The only category of Medicare-eligibles excluded from such enrollment were End-Stage Renal Disease (ESRD) beneficiaries.

This exclusion was at the behest of the HMO industry, which was concerned about the financial impact of permitting ESRD-eligibles to enroll. ESRD beneficiaries are approximately 10 times as expensive to treat as the average Medicare beneficiary, primarily because of the costs of maintenance dialysis, which patients require about three times a week.

Also, although there are more than 90,000 ESRD patients nationwide, there are relatively few in individual counties, and the Medicare capitation rates were set on a county-specific basis. A county-specific capitation rate for ESRD beneficiaries would be based on numbers too small to be actuarially sound.

Prior to TEFRA, some federally qualified HMOs had cost reimbursement contracts with the Health Care Financing Administration (HCFA), and were expected to enroll patients with pre-existing ESRD in numbers proportionate to their numbers in the fee-for-service system. These HMOs provided care for ESRD patients on a fee-for-service basis, and were reimbursed Medicare allowable costs for whatever they spent.

Under TEFRA regulations promulgated in February 1985, HMOs, beginning in April 1985, signed "risk" contracts with HCFA, meaning they agreed to accept a capitation rate based on 95% of Medicare's fee-for-service costs, and would provide all Medicare-covered benefits required by enrollees, putting themselves at risk for cost over-runs. These HMOs are frequently referred to as "TEFRA HMOs", their risk contracts as "TEFRA contracts".

HMOs which had pre-TEFRA cost-reimbursement contracts and converted to risk contracts were allowed to convert their already-enrolled Medicare-eligibles, including their ESRD-eligible enrollees, on a two-for-one basis, meaning they had to enroll two new enrollees for every one converted.

The purpose of this restriction was to gradually phase into the capitation system beneficiaries whose actual costs were already known to be less than 95% of fee-for-service costs.

Some research has indicated that HMO patients are less costly than fee-for-service patients. At least three explanations have been proposed for this phenomenon, and there is some evidence to support all three: (1) people who join HMOs tend to be healthier people, relatively low-utilizers of the health care system, with weaker ties to existing providers and, therefore, greater willingness to establish a relationship with a new provider entity; (2) there may be some tendency for HMOs to market to healthier people; and (3) HMOs are more economical in the care they provide even when they are being reimbursed full costs for a patient.*

As of April 1987, the two-for-one rule is no longer in effect, and HMOs can now convert all of their Medicare enrollees from cost to risk contracts, if the patients are willing. Conversion is advantageous to the enrollee, who saves out-of-pocket costs.

* Randall P. Ellis and Thomas G. McGuire, "Setting capitation payments in markets for health services," Health Care Financing Review, Summer 1987; R. M. Scheffler and L. F. Rossiter, eds., Advances in Health Economics and Health Services Research: Biased Selection in Health Care Markets, Vol. 6, Greenwich, Conn., JAI Press, 1985; Paul Eggers and Ronald Prihoda, "Pre-enrollment reimbursement patterns of Medicare beneficiaries enrolled in 'at-risk' HMO's," Health Care Financing Review, vol. 4, no. 2, September 1982; H. S. Luft, Health Maintenance Organizations: Dimensions of Performance, New York, John Wiley and Sons, 1981.

Besides being converted from cost to risk contracts, ESRD eligibles become HMO members through a second route. If they are already enrolled in a federally-qualified HMO when they develop ESRD, they cannot be involuntarily disenrolled. ESRD entitles them to Medicare, therefore, if the HMO has a contract with Medicare, ESRD beneficiaries are covered under that contract. If the contract is a risk contract, Medicare pays the HMO an ESRD capitation rate based on statewide ESRD fee-for-service costs.

Purpose of this analysis

As of mid-1987, the Social Security Health Insurance Master File indicated that more than 3,000 Medicare beneficiaries who were ESRD patients had been enrolled at some time in an HMO. This appeared to be a large enough number to permit some comparison of cost and risk HMOs in their experience with ESRD beneficiaries.

The purpose of this paper is to:

- o Provide an overview, with generally descriptive statistics contrasting --
 - ESRD HMO patients with the ESRD population as a whole
 - Cost and risk HMOs
- o Assess risk HMOs' potential costs relative to the Statewide capitation rate.
- o Compare cost and risk HMOs in terms of three "performance" measures --
 - Terminations and deaths, negative measures
 - Kidney transplants, a positive measureand test the hypotheses that (1) risk HMOs are performing as well as cost HMOs, as measured by terminations and deaths, and (2) risk HMOs are performing even better than cost HMOs, as measured by transplants. Regression models were used to test these three hypotheses.
- o Consider future possibilities in regard to HMO risk reimbursement for ESRD patients and the rate of kidney transplants.

Analytic Approach

-- Selection of HMOs --

Although there were several hundred different HMO plan numbers for the 3,000 ESRD beneficiaries in the master file, these did not represent different HMOs. An HMO plan number changes if the HMO converts to a different type of Medicare contract and, sometimes, if there are changes in the "billing option" for administrative processing of bills.

It is also possible for the HMO to have several plan numbers concurrently, if it is in the process of converting some patients from one contract to another, or if it has a service area that includes a county across a State line or a non-contiguous county of its own State.

Further analysis of the plan numbers and their significance revealed that more than 1,300 enrollees had been enrolled in a plan type that existed under TEFRA prior to the promulgation of the risk contract regulations, the Health Care Prepayment Plans (HCPPs).

Like the regular cost-contract plans, HCPPs were reimbursed Medicare-allowable costs on a fee-for-service basis for their ESRD enrollees. Unlike the regular cost-contract plans, HCPPs were not obliged to enroll numbers of ESRD beneficiaries proportionate to the numbers in the fee-for-service system. However, they could not refuse to enroll a beneficiary with pre-existing ESRD, and could not disenroll a person who became ESRD-eligible after enrollment.

For purposes of the following analysis, an arbitrary decision was made to eliminate the ESRD beneficiaries who had only been in HCPPs and never in either a cost or risk-reimbursed HMO or demonstration. Beneficiaries who were in a regular cost or risk plan which had also had an HCPP contract were retained.

Since our primary unit of analysis is the HMO by contract type (cost or risk), rather than the individual beneficiary, a decision was made to select for this analysis only those HMOs which had had at least 20 ESRD beneficiaries under either a cost or risk Medicare contract and under a single plan number.

Once the HMOs were selected on this basis, then all of the plan numbers an HMO had had with ESRD beneficiaries in the plan were grouped together as either "cost" or "risk" plans. HMOs that had had both cost and risk plans were treated as if they were two different HMOs. Plan numbers that were HCPPs were counted as cost plans; risk demonstrations were counted as risk plans.

This process of selection resulted in a total of 961 ESRD beneficiaries for the analysis which follows. These beneficiaries had been enrolled, between 1976 and 1987 (more than two-thirds between 1983 and 1987), in 17 HMOs, in 10 States, for a total of 16,969 months, or 1,414 enrollee years (16,969 - 12).

Descriptive Overview

-- ESRD patients in HMOs compared with ESRD population --

About 3% of all ESRD beneficiaries have had some involvement with an HMO (or HCPP).

The ESRD beneficiaries in our analysis were contrasted with (a) ESRD beneficiaries who had ever had any HMO involvement, and (b) the ESRD population in general, in terms of age, sex, and race. The results are in Tables 1, 2 and 3.

The ESRD beneficiaries in the HMOs selected for analysis were younger than ESRD beneficiaries in the general population, and somewhat younger than ESRD beneficiaries who have ever had any HMO involvement. Ten percent of the beneficiaries in our analysis are under 35, in contrast to 4% in the general ESRD population and 8% in the ESRD population with any HMO involvement. (Table 1)

There were slightly more male ESRD beneficiaries in our analysis, and with any HMO involvement, than in the general ESRD population (57% vs. 55%). (Table 2)

There were more white and fewer black ESRD beneficiaries in the HMOs selected for analysis than in the ESRD population in general or the ESRD population with any HMO involvement. More than three-fourths of the beneficiaries in the analysis were white, in contrast to less than two-thirds in the general ESRD population and 70% in the ESRD population with involvement in any HMO. Only 18% of the beneficiaries in the analysis were black, in contrast to 28% in the general ESRD population and 22% in the ESRD population with involvement in any HMO. (Table 3)

-- Cost and risk contracts --

Five of the 17 HMOs in the analysis had ESRD enrollees only under Medicare cost contracts, 5 had them only under risk contracts, and 7 had ESRD enrollees under both cost and risk contracts. The number of HMOs, by the States in which they are located, and the types of contracts they had with Medicare, are given in Table 4. The names and locations of the individual HMOs are given in Appendix A.

There were 458 enrollees and 8,270 months of enrollment under cost contracts, 572 enrollees and 8,699 months of enrollment under risk contracts. The number of enrollees and months under each type of contract is given in Table 5. Sixty-nine enrollees were switched from cost to risk contracts and are, therefore, counted twice, once under each type of contract.

Risk contracts had older enrollees than did cost contracts, but a shorter average enrollment period, as of the date of this analysis. The mean age for enrollees under cost contracts was 57; under risk contracts, the mean age was 63. The mean number of months per enrollee under cost contracts was 18; under risk contracts, the mean number of months per enrollee was 15.

Index of Relative Cost

As noted at the beginning of this paper, the ESRD capitation rate HCFA pays risk HMOs is a Statewide rate based on the total ESRD fee-for-service costs and numbers of enrollees throughout the State.

An Index of Relative Cost was created, for this analysis, for two purposes: (1) to determine the potential cost of the ESRD enrollees in each HMO relative to the Statewide capitation rate, and (2) to determine whether this Index of Relative Cost is correlated with the performance measures used in the analysis.

To construct the Index of Relative Cost, the total dollar amount of ESRD reimbursement in 1985, in each county, was divided by the total number of ESRD-eligible persons in that county, for an approximate county per capita for ESRD. For each HMO, the number of ESRD enrollees residing in the county* was multiplied by the county per capita figure, and these amounts were then totalled. That total was then divided by the number of enrollees, to derive a weighted average indicative of the enrollees' potential cost. This weighted average was then divided by the Statewide ESRD per capita figure, the result being the HMO's Index of Relative Cost.

A figure greater than 1.0 indicates that the HMO's ESRD enrollees are being drawn from areas that are high-cost, relative to the State as a whole, and that the HMO will have to be diligent in selecting and negotiating with ESRD providers, in order to be cost-effective. A figure less than 1.0 indicates that the HMO's ESRD enrollees are being drawn from areas that are low-cost relative to the State as a whole, and that the HMO should have no difficulty in achieving savings from case-managing these ESRD patients.

* In the Master File, the county of residence is the most current. Therefore, for patients who moved out of the HMO's service area we assumed the most probable residence during enrollment, and imputed the county of residence of the plurality of the HMO's ESRD patients.

One of the HMOs which had both cost and risk contracts had not converted any ESRD enrollees to its risk plan as of the date of this analysis. Therefore, the Index of Relative Cost was constructed for 11 risk plans. Eight of these 11 had an Index of Relative Cost greater than 1.0, indicating that they tended to be drawing ESRD enrollees from areas in which costs were higher than the State average. Four had an Index score less than 1.0, indicating that they were drawing from areas in which costs would be likely to be below the State average. The range was between 1.11 and .88, i.e., costs potentially 11% above, to 12% below, State average.

Performance Measures

-- Terminations --

Conceptually, terminations or disenrollments of ESRD enrollees from an HMO can occur for any of at least 5 reasons:

- 1 - Enrollee's primary payor is an employer group health plan (EGHP)*, and the EGHP terminates its contract with the HMO;
- 2 - Enrollee moves out of the geographic area covered by the HMO;
- 3 - Enrollee is dissatisfied with the HMO, or perhaps feels that the HMO cannot adequately handle ESRD patients;
- 4 - Enrollee is successfully transplanted and becomes ineligible for Medicare 36 months after the transplant, if there is no other reason for Medicare eligibility, such as age or disability;
- 5 - Enrollee dies while enrolled in the HMO.

Deaths are analyzed separately, below, and, therefore, were eliminated from the analysis of terminations as a performance measure.

Transplants are analyzed separately, below, as a positive performance measure, therefore, terminations which occurred 36 months after the date of transplant were also eliminated from the analysis of terminations as a performance measure.

Also excluded were those "terminations" that were actually only a conversion from one plan number to another (a conversion from one contract or billing option to another), within the same HMO.

The terminations included in the analysis, then, were those that are attributable to any of the first three reasons.

* Under current law, EGHPs are primary payor for the first year of ESRD eligibility, with Medicare functioning as secondary payor during that period.

Although the first two reasons could not be distinguished from the third, it is presumed that there would be no significant difference between HMOs with Medicare cost and risk contracts, in terms of the proportion of terminations attributable to EGHP contract terminations and geographic moves.

The inference, then, is that differences between cost and risk HMOs in ESRD terminations may potentially be attributed to the third reason, i.e., to the enrollees' dissatisfaction with the HMO.

In the case of either type of dissatisfaction, a reasonable hypothesis might be that risk HMOs would have more than cost HMOs. Risk contracts would provide an incentive for the HMO to more actively control and limit costs, perhaps "rationing" care in a manner unacceptable to the enrollee, or perhaps seeking to discourage the enrollee from remaining in the HMO if costs could not be controlled or limited to keep them within the ESRD statewide capitation payment.

Our hypothesis was the null hypothesis -- that terminations under risk contracts would be no greater than under cost contracts. However, we did hypothesize that, among risk HMOs, there would be a positive relationship between the Index of Relative Cost and terminations, that is, that drawing ESRD clients from relatively high cost areas would correlate with terminations, and drawing them from relatively low-cost areas would be more likely to correlate with retention.

Larger proportions of cost contract enrollees terminated than risk contract enrollees (46% vs. 39%). Two regression models were run, to explore these findings further. Both used terminations (excluding deaths) as the dependent variable, and both included plan type (risk contracts vs. cost contracts) and the Index of Relative Cost as independent variables.

The first model, with only those two independent variables indicated that risk contracts did indeed have significantly fewer terminations than cost contracts (significance level $<.01$), and that the Index of Relative Cost was positively related to terminations ($.05$ significance level).

The second regression model added three independent variables: enrollee age; "enrollee months", the number of months that individual enrollees had spent in cost or risk plans; and "HMO months", the number of months of experience the plan had with ESRD enrollees. In this second model the Index of Relative Cost was no longer significant, but risk contracts still had significantly fewer terminations than cost contracts (significance level $<.01$). Age was not significant.

However, this second model indicated that enrollee months were negatively related to terminations, at a significance level of $<.01$; and HMO months were positively related to terminations, at a significance level of $<.01$. This suggested that terminators had a shorter period of enrollment than enrollees who did not terminate, but that HMOs who had more experience with ESRD enrollees were more likely to experience terminations.

Table 6 illustrates these findings, by plan type. Cost contract enrollees averaged 19.5 months in such plans, and risk contract enrollees averaged 15.6 months. However, the cost contract enrollees who terminated averaged 18.4 months in the plan, in contrast to the risk contract terminators, who averaged only 9.7 months.

Risk contract HMOs had twice as much experience with ESRD enrollees as cost contract HMOs (1,917 months vs. 898 months), and risk contracts had considerably more experience with terminators than did cost contracts (2,068 months vs. 1,258 months).

Both types of plans had more months of experience with terminators than with enrollees they had retained, but the disparity was greater in cost contracts than in risk contracts. Cost contracts had twice as much experience with terminators as with enrollees they retained (1,258 months with terminators vs. 593 months with retainees). Risk contracts had only 14% more months with terminators, relative to their experience with enrollees they retained (2,068 months with terminators vs. 1,820 months with retainees).

This data suggests that there should be further research on the factors influencing HMO termination and retention, and the dynamics.

-- Deaths --

For the regression analysis explaining mortality, patients who had functioning grafts, i.e., had already been successfully transplanted, were deleted, since a functioning graft, by itself, greatly reduces the probability of death, relative to the probability of death among ESRD beneficiaries on maintenance dialysis.

Age is the major predictor of death, and was a factor in the regression equation. The total number of ESRD months of experience that the HMO had had was factored into the regression equation for mortality, since we thought that experience could reduce mortality; however, this factor was not statistically significant.

In addition to age, plan type, and HMO months, the regression model included enrollee months and the Index of Relative Cost. As expected, age was a significant predictor of mortality ($<.001$).

Our hypothesis regarding plan type was, again, the null hypothesis -- that risk HMOs would have no greater mortality than cost HMOs. Larger proportions of cost contract enrollees died while enrolled in the HMO, relative to risk contract enrollees (33% vs. 27%). Controlling for the other variables, regression results indicate that there is significantly less mortality in the risk plans, relative to cost-reimbursement.

This finding warrants further study, since we did not measure biased selection. It is possible that risk contract enrollees were not as sick as cost contract enrollees, and this could potentially be tested by assessing the duration of the disease and the number of hospital admissions prior to HMO enrollment.

Enrollee months was negatively related to mortality (.02 significance level). In cost contract plans the average months of enrollment for enrollees who died was 13.7 months; in risk contract plans it was 13.8. In cost contracts the average months of enrollment for enrollees who did not die was 18.1; in risk contracts it was 14.6.

The longer the duration of end-stage renal disease, the greater the probability of death, however, we did not have the pre-HMO duration of ESRD for these enrollees to use in the regression model as a control variable. It is possible that the significance of enrollee months is actually related to the duration of the disease.

HMO months of experience with ESRD enrollees, and the Index of Relative Cost, were not significant predictors of mortality.

-- Transplants --

Current research by Eggers and others indicates that: (a) patients with successful renal transplants live longer and have a better quality of life than patients on dialysis; (b) the transplant rate is rapidly increasing, particularly among younger patients; (c) the probability of successful outcome has increased greatly with the widespread use of immunosuppressants; and (d) transplants are cost-effective, with Medicare savings resulting.*

* Paul W. Eggers, Ph.D., "Impact of Transplantation on the Medicare ESRD Program," Office of Research, Health Care Financing Administration, September 1987.

Furthermore, although there are an insufficient number of kidneys presently available for transplant, relative to the number of people on waiting lists, many patients appropriate for transplant are not even referred to waiting lists.**

Thus, transplants are used in our analysis as a positive measure of HMO performance.

We had four hypotheses related to transplants:

(1) The low rate of referral to transplant is considered to be at least partly explained by the fact that, in the fee-for-service system, the health care providers who must make

(2) Our second hypothesis is that the more experience an HMO has with ESRD enrollees, the more likely it is that these enrollees will be transplanted.

(3) A risk HMO receives a capitation rate based on costs in the fee-for-service sector, in which patients are being under-transplanted, and receives this rate for a full 3 years after a patient has been successfully transplanted. Therefore, it is highly cost-effective for the risk HMO to have all appropriate enrollees transplanted, and our third hypothesis is that risk HMOs will have more transplants than cost-reimbursed HMOs.

(4) A lower score on the Index of Relative Cost suggests there is less pressure on the risk HMO to find more cost-effective alternatives to conventional care, and a higher score suggests there is greater pressure to search these out. Therefore, our fourth hypothesis is that risk HMOs with higher Index scores will have more transplants than those with lower scores.

We could not test the first hypothesis with this data, since our transplant rates are not year-specific.

Factors in the regression analysis explaining transplants relate to the other three hypotheses, and included plan type, enrollee months, HMO months, and the Index of Relative Cost. Age was also factored in, as it is always a major predictor (inverse correlate) of transplant.

** Richard P. Kusserow, Inspector General, "The Access of Dialysis Patients to Kidney Transplantation," March 1987. these referrals are involved in providing dialysis, and have a financial disincentive to refer a patient to a transplant surgeon. Therefore, one of our hypotheses is that in any type of HMO (cost or risk), where case management transcends the interests of any one type of provider, patients are more likely

Both HMO months of experience with ESRD patients and ESRD enrollee months in these HMOs were significantly correlated with the probability of enrollees being transplanted, which provided some confirmation of our second hypothesis. Again, however, the duration of the disease may be an explanatory factor since, controlling for age, the probability of transplant correlates with the duration of the disease.

Risk plans were significantly less likely than cost plans to have enrollees transplanted, which is the opposite effect we expected in our third hypothesis. We suspect that this may have something to do with perceived, rather than actual, cost incentives, and with cash flow realities. Transplant involves a large initial outlay on the part of the HMO, with recoupment at a later period. Also, the information regarding transplant economics is relatively new, and the data for this analysis, for the most part, covers periods when transplants were not as cost-beneficial, and recoupment was less probable.

The Index of Relative Cost was not related to the probability of enrollees being transplanted, offering no support to our fourth hypothesis.

Conclusion

Risk HMOs appear to have significantly fewer terminations and deaths than cost contract HMOs. However, the shorter enrollment period for terminators, and what appears to be an inverse relationship between the quantity of HMO experience with ESRD enrollees and the duration of enrollment prior to termination needs further study. Also, this analysis did not include data permitting us to explore potential selection bias.

Future study of ESRD enrollees in HMOs should incorporate variables such as the duration of the disease and the number of hospital admissions prior to enrollment.

The risk HMOs in this analysis appear to be drawing their enrollees from areas that have higher ESRD costs than the Statewide average, however, the Index of Relative Cost does not appear to be relevant to terminations, mortality, or transplants.

It is possible that, as HMOs accrue larger numbers of ESRD beneficiaries, an area-specific ESRD capitation rate may be actuarially feasible, permitting more accurate rate-setting.

At present, risk HMOs have significantly fewer transplants than cost-reimbursed HMOs. This effect may be reversed in the future, as risk HMOs become more aware of the improved transplant outcomes, and the potential for cost recovery.

Under risk reimbursement, the cost of transplant surgery looms large, since it entails a large cost outlay that will not be recovered for a year or more. However, since the large ESRD capitation rate will be paid to the HMO for the full 36 months post-transplant, HMOs should find it advantageous to make appropriate referrals to transplant surgeons.

Also, as a result of legislation passed in 1987, immunosuppressants are a covered benefit under Medicare for the first year post-transplant. To assure that the post-transplant patient remains enrolled throughout the full 3-year period, permitting the HMO to recover the costs of the transplant surgery, it may be that HMOs will consider offering the immunosuppressant as an extra benefit in the second and third year post-transplant, and may find that this is cost-effective for the organization, as well as advantageous to the enrollee.

The evidence to date suggests that capitation is a viable option for End-Stage Renal Disease patients, as well as for other Medicare-eligibles.

Acknowledgments

The authors are especially grateful to Paul Eggers, not only for his expertise, but for his extraordinary patience and kindness. We also wish to thank Karen Beebe, Ron Kelly, and Tim Lawrence, for their technical assistance. And we remain bereaved in remembering the wholehearted help given by Lois Landolina.

Table 1

Age Distribution for ESRD Beneficiaries
in HMOs Selected for Analysis, in All HMOs,
and in General ESRD Population

Age	In Selected HMOs	In All HMOs	In General ESRD Population
Under 35	9.9%	7.5%	4.4%
35-64	41.5%	39.5%	45.7%
Over 64	48.6%	52.9%	49.9%
Total*	100.0%	100.0%	100.0%

* May not add due to rounding.

Table 2

Gender Distribution for ESRD Beneficiaries
in HMOs Selected for Analysis, in All HMOs,
and in General ESRD Population

Gender	In Selected HMOs	In All HMOs	In General ESRD Population
Male	57.1%	56.9%	54.9%
Female	42.9%	43.1%	45.1%
Total	100.0%	100.0%	100.0%

Table 3

Race Distribution for ESRD Beneficiaries
in HMOs Selected for Analysis, in All HMOs,
and in General ESRD Population

Race	In Selected HMOs	In All HMOs	In General ESRD Population
White	75.4%	70.3%	65.4%
Black	17.5%	22.3%	28.3%
Other	6.4%	6.5%	4.8%
Unknown	.6%	.9%	1.5%
Total*	100.0%	100.0%	100.0%

* May not add due to rounding.

Table 4

NUMBER OF SELECTED HMOS WITH ESRD ENROLLEES
BY STATE AND TYPE OF CONTRACT

State	Cost Contract Only	Cost and Risk Contracts	Risk Contract Only
California	1	2	1
Colorado	-	1	-
Florida	1	-	2
Hawaii	-	1	-
Illinois	1	1	-
Kentucky	1	-	-
Minnesota	-	1	1
Oregon	-	1	-
Washington	-	-	1
West Virginia	1	-	-
Total	5	7	5

Table 5

HMOS SELECTED FOR ANALYSIS --
ENROLLEES AND MONTHS OF ENROLLMENT, BY TYPE OF CONTRACT

No. of HMOs	<u>Cost</u>		<u>Risk</u>		<u>Total</u>	
	<u>Enrollees</u>	<u>Months</u>	<u>Enrollees</u>	<u>Months</u>	<u>Enrollees</u>	<u>Months</u>
HMO with:						
Only cost contract 5	252	5,188	-	-	252	5,188
Only risk contract 5	-	-	430	7,553	430	7,553
Cost & risk contract <u>7</u>	<u>206</u>	<u>3,082</u>	<u>142</u>	<u>1,146</u>	<u>348</u>	<u>4,228</u>
Total 17	458	8,270	572	8,699	1,030	16,969

Table 6

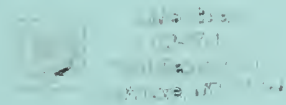
ENROLLEE MONTHS AND HMO MONTHS,
FOR ENROLLEES RETAINED AND TERMINATED,
BY TYPE OF HMO CONTRACT

	<u>Cost Contract</u>		<u>Risk Contract</u>	
	<u>Retainees</u>	<u>Terminators</u>	<u>Retainees</u>	<u>Terminators</u>
Average No. of Enrollee Months in HMO	20.5	18.4	19.4	9.7
Average No. of HMO Months of Experience with ESRD Enrollees	592.9	1257.8	1820.3	2068.0

APPENDIX A

HMOs SELECTED FOR ANALYSIS

Anchor Organization for Health Maintenance	Chicago, Illinois
Bay Pacific Health Plan	San Bruno, California
CAC Health Plan	Coral Gables, Florida
CIGNA	Tampa/Orlando, Florida
FHP of Southern California	Long Beach, California
Foundation Health Plan	Sacramento, California
Group Health Cooperative of Puget Sound	Seattle, Washington
Health Plan of Upper Ohio Valley	St. Clairsville, Ohio
Humana Medical Plan	Miami, Florida
Kaiser	Denver, Colorado
Kaiser FHP	Honolulu, Hawaii
Kaiser Northwest Foundation Health Plan	Portland, Oregon
Maxicare	Los Angeles, California
Maxicare	Louisville, Kentucky
Physicians Health Plan	Minnetonka, Minnesota
Prucare of Illinois	Des Plaines, Illinois
SHARE	Bloomington, Minnesota



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